

Four New European Ants.

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I report here two new ants from Dalmatia and two from Czechoslovakia.

Myrmetaerus, n.g.

♀ The head is edgeless quadrangular, the epistom is vaulted, the front-margin roundish, in the middle is a large glossy smooth field *without any carina*. The mandibles are wide with 5 teeth, of which the two in the front are large and sharp, the others small and blunt. Palpi maxillares are of 5, labiales of 3 joints. The laminae frontales are very short, scarcely extending over the antennal pit. The area frontalis is large, indistinctly defined, the antennae are thick enough, of 12 joints, the 3 last forming a distinct club, which is longer than the other part of the funiculus. The eyes are in the middle of the head. On the forehead there remain *signs of the ocelli* in the form of 2 or 3 dots. The thorax is wide in the forepart, slender in the middle, and has a distinctly impressed mesoepinotal suture. The epinotum carries two short spines. The petiolus has a very short pedicel, is very high and steep, angular, in the part below is a great squamoid blunt appendix. The postpetiolus is large, extended in the transversal axis into two corners, in the part below there is *no appendix*. The 2nd and 3rd pair of legs are without spurs. The whole body is covered with strong hair. The abdomen is glossy and shining.

♀ Except for the common characteristics of a female it quite resembles the worker. The wings are unknown.

♂ Unknown.

Myrmetaerus microcellatus, n.sp.

♀ Monomorph, 2.4-2.5mm. (fig. 1). The colour of the body is yellow or yellow-brown, the funiculus and the teeth are darker in colour, the hindpart of the first abdominal joint is dark brown. On the whole in colour this resembles the *Leptothorax nylanderii*.

In addition to the characteristics of the genus the mandibles (fig. 4) are sleek and grown all over with hair. The antennal scapes do not reach the edge of the head as the first joint of the funiculus is nearly as long as the four following together (fig. 3). The last joint is longer than the two others of the club. The whole antennae are covered with small pressed hair. The eyes are in comparison large enough, on the forehead there are 2/, in one exemplar 3/ black dots (fig. 2), which are the remaining parts of the ocelli. The spines are short with a wide basis (fig. 1).

The sculpture of the body on the whole is very fine. The upper part of the head, the whole thorax, petiolus and postpetiolus, is superficially reticulated. On the side part of the clypeus and on the forepart of the head there are to be seen some longitudinal wrinkles. The abdomen is glossy without any structure.

♀ 2.75mm. The colour is black-brown, the mandibles and legs are yellow-brown, the antennae brown. The head is on the front and on the genae longitudinally wrinkled, in the other part reticulated. The thorax is glossy with a few superficial longitudinal wrinkles, petiolus and postpetiolus coriaceous and reticulated. The long hair covering the whole body is fine and thin.

♂ Unknown.

I have found this ant under a stone in the leafy wood at the Savina Monastery, near Erceg Novi (Castelnuovo), in the Gulf of Kotor (Cattaro), in Dalmatia. It was a mixed colony with *Leptothorax nylanderii*, Förster, where the workers of *Leptothorax* were predominant. I have observed only at home, examining my material from Dalmatia, that there were two species mixed, because the superficial likeness of *Myrmetaerus* with *Leptothorax* was so striking. Therefore I do not know anything about their relationship.

The nearest relationship of *Myrmetaerus* are *Myrmoxenus*, Ruzsky,*

* M. Ruzsky, "Neue Ameisen aus Russland," *Zool. Jahrb., Abt. f. Syst.*, Bd. XVII., 1902.

and *Chaleporeus*, Menozzi,[†] which have both been found also with the *Leptothorax*.

The similar morphological features of *Myrmetaerus* and *Myrmoxenus* are: The same form of the 12-jointed antennae, the short laminae frontales, similar form of the thorax with a mesoöpinotal suture and short spines, the short and steep petiolus with a squamoid appendix below. The differences are in the structure of the clypeus, in the mandibulae different toothed, in the structure of the postpetiolus in the under part, and the presence of the degenerated ocelli in *Myrmetaerus*. The differences between *Chaleporeus* and *Myrmetaerus* are of a greater degree. Except those just mentioned parts of the body, still the laminae frontales and the petioli are dissimilar.

But in spite of them I do not doubt, that after the material have been compared and the generical definition enlarged, that all these three genera could be considered as one genus. The biological chief characteristic—the alliance-life with *Leptothorax*—some similar morphological marks (the similarly jointed antennae and palpi, the similar form of the thorax with small spines, the petiolus with an appendix) allow us to believe that the phyllogenetic origin of all these three genera is the same, and the mentioned forms could be considered as different species of the same genus. In this sense my description of this ant as a new *genus* is to be considered as a provisional arrangement.

The type and the cotypes are in my collection.

Cardiocondyla elegans var. *dalmatica*, n.var.

♂ This form differs from the type through the superficial structure of the head and thorax; the small pits in the head are more sparse than in the type, and the surface between them is shiny, and therefore the head is glossy, against which the very dense pits and the rough surface between them in the type, make the head lustreless. The same is on the thorax concerning the sculpture. In these things var. *dalmatica* resembles the var. *bulgarica*, but it differs in the colour of the body.

The colour is dark brown as in the type. The petiolus is a little more slender than in the type, it is narrower than the half of the postpetiolus against which, in the type, it is wider.

I have found one colony of this ant at Erceg Novi (Castelnuovo), in the Gulf of Kotor (Cattaro), Dalmatia. The nest was in a sand-field, only 50m. from the sea. Around the crater-shaped mouth of the nest there were densely strewn the remains of many hundred workers of *Tetramorium caespitum*.

The cotypes are in my collection.

Myrmica moravica, Sdk.

Worker and female of this ant have been already described in Bohemian.* I repeat here shortly the description and adjoin the description of the male not yet published.

[†] C. Menozzi, "Nota su un nuovo genere e nuova specie di formica parassita." *Atti della Soc. Ital. di Scienze Naturali*, Vol. LXI., 1922.

* S. Soudek, "Myrmica moravica n.sp., relict fauny praeglacialni." *Cas. mor. zem. musea (Acta Musei Moraviensis)*, Brno., Vol. XX.-XXI., 1922-3, p. 106, with 6 figs.

♂ 5.6-5mm. Besides the marks of the genus the most characteristic are: The antennae 12-jointed. The antennal scapes are rectangular, bowed or broken at the bottom, and carry a sharp tooth on the summit of the curve. The antennal clubs are slender, uncertainly 3-4 jointed because the 9th joint of the funiculus is distinctly longer than the 8th. The thorax is wide, compact, moderately vaulted and without any mesoepinotal suture or impression. The epinotal spines are firm and short, shorter than the space between them. The epinotal field is glabrous and shining. Petiolus is distinctly pedunculate, in the profil roundish without any angle in the upper front part. The sculpture of the body on the whole is rough and strong. The wrinkles in the postpetiolus are parallel and leave a small glabrous field in the middle. The pilosity of the whole body is pretty dense. The colour of the head is dark reddish-brown, the clypeus, front and vertex, are black-brown, the mandibles and antennae reddish-brown, the thorax and pedicel brownish-red, reddish-brown, even dark brown. The appendages are light or dark red-brown, the tarsal-joints always lighter.

♀ 7mm. The female resembles, on the whole, the worker. The thoracic dorsum is superficially striate. The spinotal spines are short, of the same relative length as in the worker. The spinotal field is glabrous and shining. The postpetiolus is entirely striate without any distinctly glabrous field in the middle. The head is red-brown, the clypeus, front and vertex, black-brown, the mandibles and antennae red-brown. The thorax and pedicel are red-brown with some black spots on the sides of the mesonotum, on the scutellum and metanotum. The abdomen is red-brown, shining and smooth, lighter than in the worker.

♂ 6mm. The antennae are in proportion short, of 13 joints. The antennal scapes are straight, as long as the two following joints of the funiculus together (fig. 2). The funiculus is slender, its 1st and 2nd joint are of the same length, the 3rd is a little shorter. The five last joints form the slender club, which is of a lighter colour than the other part of the antenna. The mandibles are wide, but with two teeth only.

The head is coriaceous and very little wrinkled. The thorax is slim and shiny, the pronotum and mesonotum is wrinkled longitudinally and superficially, the scutellum a little stronger.

The epinotal tubercles are low and the space between them is glabrous and shining. The petiolus is slender, wrinkled at the sides, glabrous in the upper part like the whole postpetiolus. The abdomen is glabrous and shining.

The whole body is covered with bristles, the antennae and the legs are only pubescent. The wing is limpid, of the typus *Myrmica*, the cubital field, however, is open, because the 2nd cross-vein is not developed (fig. 1). The genital appendices (vagina externa, media and interna) are to be seen in fig. 3.

I have found this ant in Pavlovské kopce, the Jurassic lime-stone terrain in South Moravia (Czechoslovakia).

In Central Europe the *Myrmica scabrinodis* race *lobicornis*, Nyl., approaches in some measure to the *moravica*, the nearest relations, however, are the East Russian and Siberian forms, *M. scabrinodis* race *stangeana*, Ruzs., and *M. lobicornis* var. *deplanata*, Ruzs. *M. moravica*, striking by its large size, I could not believe that it has been overlooked till now, if being spread over a larger area, I accepted as true, that it was an isolated form. Concerning the natural conditions of the locality (geological, climatological, and floristical), I concluded that *Myrmica moravica* could be a relic of the praeglacial period.

The types and cotypes are in my collection.

Bothriomyrmex meridionalis sub sp. *gibbus*, Sdk.

This new subspecies has been published in Bohemian.* I repeat the description and adjoin a very interesting new discovery.

* S. Soudek, "Bothriomyrmex meridionalis gibbus n.ssp., nový mravenec z Moravy." "Cas. mor. zem. museu" (Acta Musei Moraviensis), Brno., Vol. XXII., 1924, p. 1, with 10 figs.

♀ 2.2-2.8mm. Dark brown, the thorax is a little lighter. On the whole this ant in regard to colour is similar to a worker of *Lasius niger* race *alienus*. The tibia, femur and the antennal scape is yellow brown to gray brown, the mandible (except the black brown teeth), funiculus and the tarsal joints are yellow. The head is oblong with roundish sides, straight on the vertex, hollowed, however, in the occiput. The mandible is wide, bristly, with 2 great and 8-9 little, unequal teeth. The maxillar palps are 4 jointed, the labial 3 jointed. The feelers are 12 jointed, the scapes longer than the head, the first joint of funiculus is a half longer than the 2nd, and this is longer than the 3rd. The eye is composed of 42-45 facets and comparatively large enough. The thorax is wide, the mesoepinotal suture distinct, *epinotum* is vaulted in the form of a low hump. The body is glabrous. The pubescence is microscopical, not very dense, so, that the chitinous ground remains shiny. On the upper part of the 2nd, 3rd, and 4th, abdominal joints are 6 long bristles regularly placed. The long bristles are to be seen also on the lower part of the abdomen, on the sides of the petiolus and on the coxae of the legs. On the head there are 4 short bristles: one on the edge of the antennal pit and one above.

♀ 4.3mm. The whole body is black brown, shining, femur, tibia and the whole feeler is brown, the mandible, except the black brown teeth and the tarsal joints yellowish brown. The head is oblong, narrowed in front, and the cheeks a little fallen in. The vertex is straight and the occiput hollowed. The eyes are large, the ocelli distinct, the feeler comparatively short, the first joint of the funiculus longer than the second and this longer than the third. The mandibles as in the worker. The thorax is flat, the pubescence is still finer and shorter than in the worker, the surface of the body is microscopically coriaceous and therefore the brightness a little feeble. The long bristles are only on the 4th abdominal joint. Short bristles are on the sides of the petiolus and on the corner of the epinotum.

♂ 1.5mm. Is black, glossy, the appendages are lighter, black gray, pubescence is fine as in the female, the bristles are only on the back on the last joint of the abdomen. The feelers are 13 jointed. The scapus is as long as the two following joints of funiculus together. The 1st joint of the funiculus is conical, the 2nd cylindrical and longer than the first. The wings are limpid, the cubital field is open, the veins are not so strong and take partially another course than in the typical form of *Bothriomyrmex meridionalis*.

I have found this ant in Moravsky Kras, the well known Devonian lime-stone terrain with many cavities (f.i. Macocha) in Moravia (Czechoslovakia). The discovery of *Bothriomyrmex* in Czechoslovakia was very interesting, because it was the only known locality in Central-Europe. Suspecting the probability of a wider spread of this ant I promised in my Bohemian publication to look in suitable localities for this ant. I have really discovered this ant again in the eastern part of Czechoslovakia at Plesivec, in the Slovakian triassic lime-stone terrain, westward from Kosice. Probably this ant is continuously spread from the centre of its area (Mediterranean) as far as to our country. In the only colony I have found in the Slovakia the female was *physogastric*, (fig. 1.) It is a new case known of *physogastry* in ants. The first and only female I have found in Moravia was quite normal, perhaps very young, because it was in April, the colony was still mixed with *Tapinoma erraticum*, the number of all workers was about 300, of which a third part were *Tapinoma*. The colony of Plesivec was found in August, it was very great and contained about 4-5 thousand workers with at least the same number of eggs and young brood, downright *Bothriomyrmex*.

Physogastry has never been observed in *Bothriomyrmex*. It is the question of further exploration to find out, in what conditions this phenomenon appears.

The types of normal female and male are in the collection of Mr. C. Emery, prof. of univ. in Bologna, the *physogastric* female and the cotypes of workers are in my collection.

At the end still one remark. In order to look for *Bothriomyrmex*

I made a short trip of two days, 400 km. eastward from Brno (it is the first locality of *Bothriomyrmex*), and by chance I found this ant on my first excursion, at Plesivec already mentioned.

When I found *Myrmica moravica* 4 years ago, I could not believe, that this striking species could have been overlooked by the entomologists, if being wider spread, so f.i. in the Danubian valley by the Hungarian myrmecologists. I considered, that this new species was an isolated form and explained it as a relic.

But now after having discovered *Bothriomyrmex* in my first excursion at random in the Slovakia, the part of ancient Hungary, 200 km. from Budapest, I think, that I have over-estimated the myrmecological exploration of the Pannonian valley. In conclusion I believe, that *the origin of Myrmica moravica must interest me still farther.*

Further Notes on *Polyommatus* (Agriades) *coridon* and allied species.

By ORAZIO QUERCI.

In volume 29, p. 241, of the *Entomologist's Record* of the year 1917, I published a few notes on *P. coridon*. Since that time I have been studying the problem, and I have made many attempts to get specimens from different countries of Europe.

The individuals which have most struck me were the Spanish ones, but as the insects I received from Spain had no exact data I was not able to come to a definite conclusion. I wanted to go and collect in Spain, but I met with many financial difficulties owing to the big expenses of such a trip.

At last, in May, 1924, I was able to go to Catalonia and Aragon with my wife; one month after also my son-in-law, Dr. Romei, came to Aragon with my daughter and granddaughter.

As soon as my whole family was at Albarracin, in the Province of Teruel, we arranged to collect at the same time in different surroundings; Dr. Romei and myself went to the high mountain mass near the boundary, between Aragon and Castille, while our wives remained to collect at Albarracin, which is on the plateau of Aragon.

To understand what I am writing it is necessary that I should give a name to the single forms which I have observed. I cannot enter in the embroiled and litigious question of nomenclature, and therefore I will use the peculiar names which have been applied to the local forms of Catalonia and Aragon.

After having caught an immense number of specimens, after having observed on the field the insect life, I have come to the conclusion that in Spain there are four different species, which have till now been considered to be simple forms of *P. coridon*. In this paper I shall name:—

P. (A.) hispana, H.S., the lowlands species from Catalonia, of which we have either collected, or seen in the Museum of Barcelona, a large number of specimens caught in May, in August, and still later in October. I believe that the smallest individuals of the second brood of that species seem to be identical with Herrich-Schäffer's figure of his "*hispana*."

P. (A.) arragonensis, Gern., is the most common blue which flies